



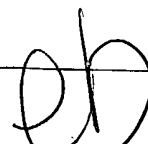
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/864,278	05/25/2001	Takayoshi Yamazaki	46156	1231
20736	7590	08/03/2004	EXAMINER	
MANELLI DENISON & SELTER 2000 M STREET NW SUITE 700 WASHINGTON, DC 20036-3307			MARKHAM, WESLEY D	
			ART UNIT	PAPER NUMBER
			1762	

DATE MAILED: 08/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/864,278	YAMAZAKI ET AL.	
	Examiner	Art Unit	
Wesley D Markham	1762		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 October 2001 and 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office Action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/11/2004 has been entered.

Response to Amendment

2. Acknowledgement is made of the amendment filed by the applicant on 5/11/2004, in which (1) the specification of the instant application was amended, and (2) Claims 1 – 4 were amended. Claims 1 – 5 are currently pending in U.S. Application Serial No. 09/864,278 (with Claim 5 being withdrawn from further consideration pursuant to a restriction requirement), and an Office Action on the merits follows.

Specification

3. The objection to the specification, set forth in paragraph 5 of the previous Office Action (i.e., the final rejection mailed on 12/11/2003), is withdrawn in light of the applicant's amendment to correct a typographical error.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1 – 4 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Specifically, independent **Claim 1** (from which **Claims 2 – 4** depend) is drawn to, “a process for determining a minimum amount of a ultraviolet absorptive compound to be chemically bonded to a binder and/or a curing agent...” The claimed process comprises the following steps: (1) choosing a number of variables (i.e., an exposure time “ τ ”, a UV absorptive compound having a given molecular extinction coefficient “ ϵ ”, and a thickness “ d ”), (2) plugging the values for “ τ ”, “ ϵ ”, and “ d ” into a mathematical formula defined in the claim to obtain a concentration “ C ”, and (3) calculating an amount of the UV absorptive compound which gives the desired concentration “ C ”. As such, the applicant's claimed process does nothing more than perform a purely mathematical algorithm / operation. In other words, the claimed process is merely drawn to selecting a number of variables, plugging the selected variables into a mathematical formula (i.e., an algorithm), and calculating a resulting value. A process that merely manipulates an abstract idea or performs a purely mathematical algorithm is non-statutory despite the fact that it might inherently have some usefulness. The court has explained that no mathematical equation can be used, as a practical matter,

without establishing and substituting values for the variables expressed therein. Substitution of values dictated by the formula has thus been viewed as a form of mathematical step. If the steps of gathering and substituting values were alone sufficient, every mathematical equation, formula, or algorithm having any practical use would be *per se* subject to patenting as a "process" under 101 (see *Sarkar*, 588 F.2d 1335, 200 USPQ 139). For such subject matter to be statutory, the claimed process must be limited to a practical application of the mathematical algorithm in the technological arts (see *Alappat*, 33 F.3d 1543, 31 USPQ2d 1556-57). A claim is limited to a practical application when the method, as claimed, produces a concrete, tangible, and useful result; i.e., the method recites a step or act of producing something that is concrete, tangible, and useful (see *AT&T*, 172 F.3d 1358, 50 USPQ2d 1452). In this case, the applicant's claims do not recite a step or act of producing something that is concrete, tangible, and useful (e.g., a coating composition, a film-coated substrate, etc.) and thus are drawn to non-statutory subject matter.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1 – 4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
8. Specifically, newly amended independent **Claim 1** (from which **Claims 2 – 4** depend) recites specific conditions used in the accelerated weathering test by the carbon sunshine weather-o-meter (i.e., a black panel temperature of 63° C and a spray cycle of 12 min./60min.). These conditions (panel temperature and spray cycle) for the accelerated weathering test were not described, either explicitly, implicitly, or inherently, in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In fact, after reviewing the applicant's specification as a whole, the examiner notes that the conditions used in the accelerated weathering test by the carbon sunshine weather-o-meter were not originally disclosed at all. For support of the newly added claimed subject matter, the applicant submitted various technical references that show process conditions generally used in a carbon sunshine weather-o-meter weathering test and corresponding to Japanese Standard JIS K 7350-4 (which corresponds to International Standard ISO 4892-4). The applicant argues that, based on the standards described in the technical references, a person of ordinary skill in the art can reasonably understand that a black panel temperature of 63° C and a water

spray cycle of 12 min./60 min. are employed in the accelerated weathering test in the claimed invention, and therefore such conditions do not add new matter. This argument is not convincing for a number of reasons. First, even assuming, *arguendo*, that the technical references submitted by the applicant do show that accelerated weather tests according to International Standard ISO 4892-4 necessarily use a black panel temperature of 63° C and a spray cycle of 12 min./60min., there is no indication or suggestion in the applicant's specification as originally filed that such standards (and therefore, such process conditions) were utilized in the applicant's claimed invention. For example, there appears to be a number of different standards that utilize sunshine weather-o-meter weathering test conditions different from a black panel temperature of 63° C and a spray cycle of 12 min./60 min. (see, for example, Yamamoto et al. (USPN 4,467,061), which teaches using a black panel temperature of 83° C and a spray cycle of 18 min./102 min. (Col.4, lines 49 – 54)). Additionally, the technical references submitted by the applicant do not show that a sunshine weather-o-meter weathering test necessarily utilizes the conditions now claimed by the applicant. For example, in the technical references submitted by the applicant, the black panel temperature is $63 \pm 3^{\circ} \text{C}$, unless specifically defined (see page 8 of the translation). Therefore, it is clear that the applicant could have utilized any number of temperatures other than 63° C (e.g., 60° C, 66° C, or another defined temperature) in the claimed process. Also according to the technical references, the water spray cycle is, "in accordance with the agreement between the parties of the delivery" (see page 8 of the translation),

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thereby indicating that a spray cycle of 12 min./60min. is not utilized in all circumstances. To conclude, there is simply no support in the originally filed specification for the carbon sunshine weather-o-meter weathering test conditions now claimed by the applicant, even in light of the technical documents submitted by the applicant.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1 – 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Specifically, independent **Claim 1** (from which **Claims 2 – 4** depend) requires plugging a value of a “dry thickness d” into a given mathematical formula in order to obtain a “concentration C” of the functional group of the UV absorptive compound. However, the units for the thickness “d” (e.g., inches, mm, cm, etc.) are not defined in the claims. Since the numerical value of the variable “d” clearly depends on the unit by which “d” is defined, the concentration “C” which is obtained by using the given mathematical formula is also dependent on the unit by which “d” is defined. Since the unit of “d” is not defined, the formula recited in Claim 1 is unclear, and the scope of Claims 1 – 4 is vague and indefinite.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley D Markham whose telephone number is (571) 272-1422. The examiner can normally be reached on Monday - Friday, 8:00 AM to 4:30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



WDM

Wesley D Markham
Examiner
Art Unit 1762



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